

I CLAIM:

Sub B2
1. ~~A teleconferencing robot, for enabling a remote conferee to~~
project a sense of presence into a group meeting, the teleconferencing
5 robot comprising:

a base;

a video monitor movably mounted to the base for receiving
and displaying an image of the remote conferee;

a video camera movably mounted on the base;

10 control means mounted on the base for moving the video
monitor and video camera in response to an input control signal; and

wherein said video monitor and video camera move in
response to said input control signal to enable a remote conferee to project
~~a sense of presence into the group meeting.~~

Sub B1
15 2. A teleconferencing robot as claimed in claim 1, wherein the
video monitor is rotatably mounted to the base unit, for rotation about a
substantially vertical axis; and

20 wherein the control means includes a rotating drive unit for
rotation of the video monitor.

3. A teleconferencing robot as claimed in claim 2, wherein the
video camera is rotatably mounted with the video monitor to the base unit;
and

25 wherein the rotating drive unit rotates the video monitor and
video camera.

4. A teleconferencing robot as claimed in claim 2, wherein the video camera is rotatably mounted to the base, for rotation about a substantially vertical axis; and

wherein the control means includes a pan drive unit for
5 rotation of the video camera.

5. A teleconferencing robot as claimed in claim 4, wherein the video camera is additionally mounted so as to be tiltable upwards and downwards; and

10 wherein the control means includes a tilt drive unit for tilting the video camera upwards and downwards.

6. A teleconferencing robot as claimed in claim 1, wherein said input control signal is derived from sound source detection means such that said control signal represents the direction of said sound source with respect to said monitor and said control means being adapted to drive said video monitor, in response to said control signal, to a position substantially facing said detected direction.

7. A teleconferencing robot as claimed in claim 6, wherein the base comprises upper and lower stages, wherein the video monitor is secured to the upper stage, and the lower and upper stages are rotatable relative to one another about a substantially vertical axis; and

wherein the upper stage has a defined forward direction with
25 the video monitor normally being directed in said defined forward direction.

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8. A teleconferencing robot as claimed in claim 3, wherein the base comprises an upper part on which the video monitor is mounted and a lower part, and means for vertically displacing the upper and lower parts relative to one another.

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9. A teleconferencing robot as claimed in claim 3, wherein the base comprises an upper part on which the video monitor is mounted and a lower part; and

wherein the lower part of the base comprises a mobile ground unit including wheels and drive motors for rotating the wheels, to drive the teleconferencing robot across the ground.

10. A teleconferencing robot as claimed in claim 3, wherein the screen of the video monitor is positioned at or near the vertical axis about which the video monitor rotates such that the angle formed by two straight lines lying in a horizontal plane crossing at the vertical axis and further extending through left and right hand edges of the screen of the video monitor is substantially 160° - 200° .

11. A teleconferencing robot as claimed in claim 3, further comprising an attention getting means for getting the attention of other conferees; and

wherein the control means includes means for actuating the attention getting means.

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12. A teleconferencing robot as claimed in claim 11, wherein the attention getting means comprises a representation of a hand and arm; and

wherein a free end of the arm is mechanically coupled to the base, whereby said representation of a hand and arm may be rotated alternatively inwardly and outwardly, to mimic a waving motion.

5 13. A teleconferencing robot as claimed in claim 3, in combination with a remote teleconferencing unit which comprises a second microphone and a second video camera for obtaining an audio signal and an image from the remote conferee for transmission to the video monitor of the teleconferencing robot, and a second video monitor and a second
10 speaker for providing an image and an audio signal received from the teleconferencing robot;

wherein the video monitor of the teleconferencing robot is provided with a speaker for outputting an audio signal received from the microphone of the remote teleconferencing unit; and

15 wherein the input control signal is provided by the remote teleconferencing unit.

14. A teleconferencing robot in combination with a remote teleconferencing unit as claimed in claim 13, wherein the remote
20 teleconferencing unit and the teleconferencing robot are each provided with a respective communications controller for audio, video and data signals, for communication therebetween over a transmission system; and

wherein the communications controllers transmit audio and video signals in both directions between the remote teleconferencing unit
25 and the teleconferencing robot, and data signals to the teleconferencing robot, for controlling the teleconferencing robot and data signals back to the remote teleconferencing unit, to provide information on movement of the teleconferencing robot.

15. A teleconferencing robot as claimed in claim 5, further comprising microphone array means for enabling a location of a speaker to be determined and generating a detection signal indicative of the location
5 of the speaker wherein the input control signal is derived from the detection signal and causes the rotating drive unit to rotate the video monitor to a position substantially facing the location of the speaker.

16. A teleconferencing robot as claimed in claim 15, further
10 comprising a switch unit enabling the input control signal to be selectively derived from the detection signal and a remote signal generated by the remote conferee.

17. A teleconferencing robot as claimed in claim 15, wherein the
15 base comprises a supporting arm extending around and behind the video monitor and supporting the video camera and the audio array means above the video monitor; and

wherein the microphone array means is fixed to the base such that the video camera and the video monitor rotate independently of the
20 microphone array means.

18. A teleconferencing robot as claimed in claim 17, wherein a screen of the video monitor is positioned near the vertical axis about which the video monitor rotates; and
25 wherein the video camera rotates substantially about the vertical axis.

19. A teleconferencing robot as claimed in claim 5, further comprising:

location determining means for enabling a location of a person to be determined and generating a detection signal indicative of the

5 location of the speaker;

wherein the location determining means is fixed to the base such that the video camera and the video monitor rotate independently of the location determining means; and

wherein the input control signal is derived from the detection
10 signal and causes the rotating drive unit and pan drive unit to rotate the video monitor and video camera, respectively, to a position substantially facing the location of the speaker.

20. The teleconferencing robot as claimed in claim 2, wherein the
15 input control signal is derived from a remote signal generated by the remote conferee.

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